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Application Number	09/902,481
Filing Date	July 9, 2001
First Named Inventor	SPRINGER, Timothy
Group Art Unit	1653
Examiner Name	
Attorney Docket Number	A-70586-1/RFT/RMS/RMK

Sheet	1	of	5
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U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

[illegible]Examiner
Signature

Maker Haddad

Date
Considered

4/9/63

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OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
mH	C1	ANDERSON, D.C. et al., "Contributions of the Mac-1 glycoprotein family to adherence-dependent granulocyte functions: structure-function assessments employing subunit-specific monoclonal antibodies." J Immunol. 1986 Jul 1;137(1):15-27.	
mH	C2	APLIN, A.E. et al., "Signal transduction and signal modulation by cell adhesion receptors: the role of integrins, cadherins, immunoglobulin-cell adhesion molecules, and selectins." Pharmacol Rev. 1998 Jun;50(2):197-263	
mH	C3	ARNAOUT, M.A. et al., "Amino acid sequence of the alpha subunit of human leukocyte adhesion receptor Mo1 (complement receptor type 3)." J Cell Biol. 1988 Jun;106(6):2153-8.	
mH	C4	BALDWIN, E.T., et al., "Cation binding to the integrin CD11b I domain and activation model assessment." Structure. 1998 Jul 15;6(7):923-35.	
mH	C5	BETZ, S.F. and DeGRADO, W.F., "Controlling topology and native-like behavior of de novo-designed peptides: design and characterization of antiparallel four-stranded coiled coils." Biochemistry. 1996 May 28;35(21):6955-62.	
mH	C6	CORBI, A.L. et al., "cDNA cloning and complete primary structure of the alpha subunit of a leukocyte adhesion glycoprotein, p150,95." EMBO J. 1987 Dec 20;6(13):4023-8.	
mH	C7	CORBI, A.L. et al., "The human leukocyte adhesion glycoprotein Mac-1 (complement receptor type 3, CD11b) alpha subunit. Cloning, primary structure, and relation to the integrins, von Willebrand factor and factor B." J Biol Chem. 1988 Sep 5;263(25):12403-11.	
mH	C8	DAHIYAT, B.I. and MAYO, S.L. "Protein design automation." Protein Sci. 1996 May;5(5):895-903.	
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mH	C13	DESJARLAIS, J.R. and HANDEL, T.M. "De novo design of the hydrophobic cores of proteins." Protein Sci. 1995 Oct;4(10):2006-18.	
mH	C14	DIAMOND, M.S. et al., "The I domain is a major recognition site on the leukocyte integrin Mac-1 (CD11b/CD18) for four distinct adhesion ligands." J Cell Biol. 1993 Feb;120(4):1031-43.	
mH	C15	DUSTIN, M.L. and SPRINGER, T.A., "Lymphocyte function-associated antigen-1 (LFA-1) interaction with intercellular adhesion molecule-1 (ICAM-1) is one of at least three mechanisms for lymphocyte adhesion to cultured endothelial cells." J Cell Biol. 1988 Jul;107(1):321-31.	
mH	C16	EMSLEY, J. et al., "Structural basis of collagen recognition by integrin alpha2beta1." Cell. 2000 Mar 31;101(1):47-56.	
mH	C17	EMSLEY, J. et al., "Crystal structure of the I domain from integrin alpha2beta1." J Biol Chem. 1997 Nov 7;272(45):28512-7.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	09/902,481
				Filing Date	July 9, 2001
				First Named Inventor	SPRINGER, Timothy
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Sheet	3	of	5	Attorney Docket Number	A-70586-1/RFT/RMS/RMK

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
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mH	C18	HARBURY, P.B. et al., "Repacking protein cores with backbone freedom: structure prediction for coiled coils." Proc Natl Acad Sci U S A. 1995 Aug 29;92(18):8408-12.	
mH	C19	HARLAN, J.M. et al., "The role of neutrophil membrane glycoprotein GP-150 in neutrophil adherence to endothelium in vitro." Blood. 1985 Jul;66(1):167-78.	
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mH	C24	HURLEY, J.H. et al., "Design and structural analysis of alternative hydrophobic core packing arrangements in bacteriophage T4 lysozyme." J Mol Biol. 1992 Apr 20;224(4):1143-59.	
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mH	C34	LEE, J.O. et al., "Two conformations of the integrin A-domain (I-domain): a pathway for activation?" Structure. 1995 Dec 15;3(12):1333-40.	
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Examiner Signature	Maher Haddad	Date Considered	4/09/03
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				Filing Date	July 9, 2001
				First Named Inventor	SPRINGER, Timothy
				Group Art Unit	1653
				Examiner Name	
Sheet	4	of	5	Attorney Docket Number	A-70586-1/RFT/RMS/RMK

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OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
MH	C36	LO, S.K. et al., "Transient adhesion of neutrophils to endothelium." J Exp Med. 1989 May 1;169(5):1779-93.	
MH	C37	LO, S.K., et al., "Two leukocyte receptors (CD11a/CD18 and CD11b/CD18) mediate transient adhesion to endothelium by binding to different ligands." J Immunol. 1989 Nov 15;143(10):3325-9.	
MH	C38	LOFTUS, J.C. and LIDDINGTON, R.C. "Cell adhesion in vascular biology. New insights into integrin-ligand interaction." J Clin Invest. 1997 May 15;99(10):2302-6	
MH	C39	MALAKAUSKAS, S.M. and MAYO, S.L. "Design, structure and stability of a hyperthermophilic protein variant." Nat Struct Biol. 1998 Jun;5(6):470-5.	
MH	C40	MICHISHITA, M. et al., "A novel divalent cation-binding site in the A domain of the beta 2 integrin CR3 (CD11b/CD18) is essential for ligand binding." Cell. 1993 Mar 26;72(6):857-67.	
MH	C41	NAUTIYAL, S. et al., "A designed heterotrimeric coiled coil." Biochemistry. 1995 Sep 19;34(37):11645-51.	
MH	C42	NOLTE, M. et al., "Crystal structure of the alpha1beta1 integrin I-domain: insights into integrin I-domain function." FEBS Lett. 1999 Jun 11;452(3):379-85.	
MH	C43	OXVIG, C. et al., "Conformational changes in tertiary structure near the ligand binding site of an integrin I domain." Proc Natl Acad Sci U S A. 1999 Mar 2;96(5):2215-20.	
MH	C44	PERUTZ, M.F. "Mechanisms of cooperativity and allosteric regulation in proteins." Q Rev Biophys. 1989 May;22(2):139-237.	
MH	C45	PYTELA, R. "Amino acid sequence of the murine Mac-1 alpha chain reveals homology with the integrin family and an additional domain related to von Willebrand factor." EMBO J. 1988 May;7(5):1371-8.	
MH	C46	QU, A. and LEAHY, D.J. "Crystal structure of the I-domain from the CD11a/CD18 (LFA-1, alpha L beta 2) integrin." Proc Natl Acad Sci U S A. 1995 Oct 24;92(22):10277-81.	
MH	C47	QU, A. and LEAHY, D.J. "The role of the divalent cation in the structure of the I domain from the CD11a/CD18 integrin." Structure. 1996 Aug 15;4(8):931-42.	
MH	C48	RICH, R.L. et al., "Trench-shaped binding sites promote multiple classes of interactions between collagen and the adherence receptors, alpha(1)beta(1) integrin and Staphylococcus aureus cna MSCRAMM." J Biol Chem. 1999 Aug 27;274(35):24906-13.	
MH	C49	SMITH, C.W. et al., "Cooperative interactions of LFA-1 and Mac-1 with intercellular adhesion molecule-1 in facilitating adherence and transendothelial migration of human neutrophils in vitro." J Clin Invest. 1989 Jun;83(6):2008-17.	
MH	C50	SMITH, C.W. et al., "Recognition of an endothelial determinant for CD 18-dependent human neutrophil adherence and transendothelial migration." J Clin Invest. 1988 Nov;82(5):1746-56.	
MH	C51	SMYTH, S.S. et al., "Regulation of vascular integrins." Blood. 1993 Jun 1;81(11):2827-43.	
MH	C52	SPRINGER, T.A. and ANDERSON, D.C. "The importance of the Mac-1, LFA-1 glycoprotein family in monocyte and granulocyte adherence, chemotaxis, and migration into inflammatory sites: insights from an experiment of nature." Ciba Found Symp. 1986;118:102-26.	

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Sheet

1

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First Named Inventor

MAYO, Stephen

Group Art Unit

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U.S. PATENT DOCUMENTS

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mt	B2	WO 95/17412 A1	06-29-1995	ICOS CORPORATION		

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mt	C58	HUTH, JR, et al, "NMR and mutagenesis evidence for an I domain allosteric site that regulates lymphocyte function-associated antigen 1 ligand binding. Proc Natl Acad Sci U S A. 2000 May 9;97(10):5231-6.	
mt	C59	LU, C, et al., "Association of the membrane proximal regions of the alpha and beta subunit cytoplasmic domains constrains an integrin in the inactive state." J Biol Chem. 2001 May 4;276(18):14642-8.	
mt	C60	SHIMAOKA M, et al., "Conformational regulation of integrin structure and function." Annu Rev Biophys Biomol Struct. 2002;31:485-516.	
mt	C61	SHIMAOKA M, et al., "Computational design of an integrin I domain stabilized in the open high affinity conformation." Nat Struct Biol. 2000 Aug;7(8):674-8.	
mt	C62	XIONG JP, et al., "An isoleucine-based allosteric switch controls affinity and shape shifting in integrin CD11b A-domain." J Biol Chem. 2000 Dec 8;275(49):38762-7.	

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Maha Haddad

Date Considered

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